Energy
CARICOM Energy Programme Quarterly Newsletter
January - March 2010 Issue 2

OUT OF THE RUBBLE

Beyond a doubt, the Earthquake in Haiti has been the single most challenging issue for the Caribbean Community (CARICOM) during the first quarter of 2010. The magnitude 7.2 earthquake which struck on January 12, 2010 claimed the lives of over 230,000 people, injured 300,000 and virtually flattened the capital, Port Au Prince, in its wake. CARICOM continues to mourn the loss of lives and to support Haiti as it tries to shake itself from the rubble of the catastrophe. While the relief efforts continue, much attention is now focused on the re-construction, which is estimated to cost US $11.5 billion over ten years. During the reconstruction phase, it is obvious that inter alia, the focus will be on construction standards aimed at meeting high structural integrity and resilience.

Destroyed Presidential Palace

An Opportunity for Haiti to migrate to a more Sustainable Energy Path

The re-construction phase presents a golden opportunity to place the country's development on a sustainable energy path, given that much of the city and infrastructure would need to be re-designed and constructed from scratch (possibly in a more decentralized manner and with some relocation). Before the earthquake, it was estimated that 75% of the population (or 6.75 million people) did not have access to electricity, and the per capita energy use reflected this wide-scale under-development. Inevitably, the total energy use of the country is therefore expected to grow with development. However, by grasping the present opportunity for a sustainable energy approach to the re-construction, for many years to come the national fuel bill for Haiti could be substantially lower than it would otherwise be. This would free-up financial resources to provide other social services such as health, education and security.

The Most Hon. PJ Patterson
CARICOM's Special Representative on Haiti

This recognition of the current opportunity for placing Haiti on a new development path is reflected in recent comments from leading figures such as United Nations Secretary General, Ban Ki-moon, who cited the need for the "smart rebuilding of Haiti" and the need to "build back better…to create a new Haiti", and The Most Honourable PJ Patterson, Special CARICOM Representative who noted that "This is a defining moment in our

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Explore this issue:

Developments, Challenges & Opportunities in CARICOM Energy Sector

by Joseph Williams - Manager, Energy Programme

Joseph Williams, Manager CARICOM Energy Programme

At least three significant developments that occurred over the period since the first Energy publication, hold potential for significantly impacting sustainable energy development over the medium term horizon in the Regional Energy Sector: These are:

- *The outcome of the Climate Change Conference in Copenhagen, December 2009;*
- *The current World Bank Interim Report of a Study entitled* ***Caribbean Regional Electricity Generation, Inter-connection, and Fuels Supply Strategy;*** *and*
- *The Proposal for a Regional Renewable Energy Centre advanced by the Government of Trinidad & Tobago.*

The first Hemispheric Energy Ministerial Meeting scheduled for April 2010 in Washington is also noteworthy. This Ministerial Meeting is being held in the context of the Energy and Climate Partnership of the Americas (ECPA). The ECPA is an initiative to advance clean energy developments in the hemisphere, and was announced by President Obama at the Summit of the Americas held in Trinidad and Tobago in June 2009.

Outcome of Copenhagen Climate Change Conference for the CARICOM Energy Sector: The greatest concern of CARICOM in relation to the disappointing outcome is that it did not improve the prospects of reducing the Region's vulnerability to the impact of Climate Change. In addition, the Regional energy sector was particularly interested in the outcome of the Conference because of the potential implication for the availability of financing to support technology transfer, capacity building, and RE and EE Project implementation. In this regard, the decision on financing, as well as the fortunes of the Clean Development Mechanism (CDM) was of particular interest. Prior to Copenhagen, it was considered that without a binding Agreement and new commitment period, the future of the CDM was in jeopardy. Many analysts are of the view however, that notwithstanding a non-binding Agreement (and a softening of the carbon market after the Conference), the CDM will continue and it will gain strength. In fact, they point to the fact that the Conference of Parties in Copenhagen took decisions relating to the CDM which could increase the prospects of more projects being financed from the Region, viz: i) It granted the CDM Executive Board, the body that oversees the mechanism, the flexibility to make changes to the CDM's registration and issuance procedures; ii) It has now allowed for the allocation of financial resources to assist in the development of projects in countries with fewer than 10 projects (like CARICOM countries).

Further, the Copenhagen Accord, also explicitly endorsed the continuation of market mechanisms to mitigate climate change and generate funds for adaptation to climate change. New and additional funding commitments were also announced for developing nations of up US $30 billion to 2012 and US$100 billion annually by 2020 to be overseen by a Global Climate Fund. In addition, the Accord stipulates that developing countries, especially those with low emitting economies, should be provided incentives to continue to develop on a low emission pathway. This has now provided added motivation for small states like those of CARICOM to pursue mitigation efforts.

Therefore, notwithstanding the generally disappointing outcome of Copenhagen Climate Change Conference, it appears that there may be improved prospects for financial flows to support clean energy, renewable energy and energy efficiency.

Inter-connecting Caribbean Countries' Electricity Grids and Piping Natural Gas: For some time now the strategy of connecting the energy systems of Caribbean countries, through sub-marine transmission line and gas pipeline (thereby integrating energy systems) has been identified as being potentially very important to increasing energy security, reducing electricity and fuel cost, and facilitating deepened economic integration. The experience of the European Union has shown that this can in-fact significantly increase energy security and facilitate economies of scale for RE by expanding markets. For the Caribbean electricity sector, such integration would allow for reducing the size and cost of spare generating capacity and improving reliability (while reducing the need for the "N-2 Rule" reliability rule). The recent circulation of the World Bank's Interim Report: ***Caribbean Regional Electricity Generation, Inter-connection, and Fuels Supply Strategy*** in January 2010, which provides preliminary data on costs and benefits, has allowed the discussions to be taken one step further. This report could be accessed at:
http://www.caricom.org/jsp/community_organs/energy_programme/energy.jsp?menu=cob

From the Study (which covers some CARICOM and non-CARICOM countries), the Eastern Caribbean Natural Gas pipeline and Geothermal based electricity in the OECS have emerged as two developments which appear to have strong prospects for feasibility. This allows Governments to place the matter of integration of regional energy infrastructure properly on the Regional Agenda.

Regional Renewable Energy Centre: In February 2010, the Government of Trinidad and Tobago announced a proposal to establish a Regional Renewable Energy Research Centre being supported under ECPA established at the Summit of the Americas in June 2009. Discussions have commenced on this initiative (an initial meeting was hosted by the Government of Trinidad and Tobago in March 2010) as to the scope, focus and best model of the approach.

Second Caribbean Sustainable Energy Forum (CSEF-2): Finally, I wish to extend an invitation to all, to participate in what has become the major Caribbean Sustainable Energy Forum, **CSEF-2.** This Forum aimed at advancing dialogue and actions on renewable energy and energy efficiency is being hosted by the CARICOM Secretariat and CREDP/GTZ along with other key partners. This year's staging of this biennial Forum is set for ***June 21- 25 in Montego Bay, Jamaica.*** The ***Forum*** under the theme *"Coping with Copenhagen: Fast Tracking Sustainable Energy in the Caribbean Region"* is expected to have wider representation and a wider range of discussion topics than the first. The opportunity will be seized to initiate discussions on the ***CARICOM Sustainable Energy Roadmap and the Regional Sustainable Energy Platform*** which will map all Regional sustainable energy initiatives and bring into focus an overall Regional target while defining actions to fill the gaps.

OUT OF THE RUBBLE

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collective history … to attain an objective which has long eluded us – the sustainable development of Haiti". The challenge now is to recognize that, given the critical role of energy for development; sustainable energy features and low carbon energy systems must be given priority and be designed into the energy future of Haiti.

In general, it is most cost-effective to include sustainable energy systems features at the design phase so that these can be seamlessly integrated with other aspects of national planning. The present situation therefore provides windows of opportunity for:

i. Diversifying and expanding fuel supply options for Haiti: Haiti now exhibits overdependence on imported petroleum products for its economy (notwithstanding some hydropower generation), with the attendant ills which include exposure to economic shocks arising from movement in world oil prices. During this re-construction phase, every effort should be made to diversify the energy mix using renewable sources such as solar, wind, expanded use of hydro, and bio-energy. The latter could be pursued in an integrated manner as part of a strategy for re-forestation and increasing energy access. It is recognized however, that fossil fuel will continue to play a role especially for electric power generation. In this regard, Liquefied Natural Gas (LNG) should be considered as one of the alternatives to petroleum products, given that it is clean, has a more stable cost profile, and that it can be sourced within the Community from Trinidad and Tobago. Supplying the electricity generation gap (which approximated 200MW before the earthquake) by combined cycle gas turbine using LNG (possibly in a co-generation mode providing de-salination with much higher thermal efficiency), compared to diesel-engine using diesel fuel, can have vastly different impacts on the economic fortunes of Haiti over the next 20 years. However, the crucial and correct decisions must be made now.

ii. Incorporating sustainable energy design of the built environment: Inter alia, these considerations include: designing buildings to be energy efficient (including layout, configuration, choice of materials to provide good insulation, utilization of natural lighting, natural cooling, and heating, etc), utilization of renewable energy technologies, as well as planning and designing road networks to contribute to improved energy efficiency in the transportation sector.

iii. Building local capacity and facilitating technology transfer in the energy sector. This can be done by ensuring that there is sufficient local participation and training of locals at every stage of the reconstruction: design, construction, and operation and maintenance of systems.

Substation Transformer damaged in Earthquake

iv. Addressing the problem of lack of energy access and energy poverty: Given that the main problem in Haiti is poverty (both rural and urban), and access to energy services is a key component of poverty alleviation and a prerequisite to the achievement of the Millennium Development Goals (MDGs), much greater quantities and much greater quality of energy services than exist today will be required to meet these goals in Haiti. Even though the re-construction is centered around the capital, this rebuilding phase may also provide an opportunity to begin to tackle the huge problem of increasing energy access and addressing the reduction of energy poverty.

It is observed that the Inter-American Development Bank (IDB) has been quite involved in the energy sector providing technical, financial and material support in the aftermath of the earthquake. The Bank has also been developing proposals for the reconstruction phase, with some recognition of the need for incorporation of sustainable energy solutions.

Challenges

One significant challenge which needs to be tackled simultaneously with the re-construction is the need for the re-designing of the institutional framework to support the energy sector in energy policy formulation, energy planning and monitoring, as well as operating of the energy systems in an efficient and effective manner. **Another major challenge (which has implication for long-term sustainability) is the need to ensure that *appropriate technological options* are pursued and incorporated.** That is, energy technology options that will satisfy the country's long term development goals rather than being influenced merely by commercial interests. Further, in the context of a prevailing notion that "beggars are not choosers" which has somewhat underpinned technology transfers in the Region's development history (and given the limited institutional capacity in Haiti's energy sector), the need to ensure correct technology choices becomes even more urgent. In this regard, CARICOM has an important role to play.

HIGHLIGHTS ON CRETAF PROJECTS

The Caribbean Renewable Energy Development Programme, United Nations Development Programme Component (CREDP/UNDP) which was completed in December 2009, included an allocation of approximately US $1.5 million for the development of a pipeline of Renewable Energy Investment Projects under the Caribbean Renewable Energy Technical Assistance Fund (CRETAF). CRETAF was initially designed as a concessionary loan modality but this was changed to grant modality during the extension of the CREDP in 2008. CRETAF funds supported an eleven project pipeline comprised of the following:

Beneficiary Country	Title of Project
Barbados	Cane Industry Restructuring Project - Sustainable Renewable Energy Component
Belize	Hydropower Feasibility Studies of the Central River
Dominica	Feasibility Study of the Newtown Hydropower Plant
Dominica	Stream Flow Gauging at Selected Rivers
Guyana	Grid Stability and Soil Test Studies for the Hope Beach Wind Farm
Guyana	Hydropower Pre-Feasibility Study of the Chiung River
Jamaica	A Feasibility Study for an Alternative Energy Biomass Fueled Co-generation CHP System
Jamaica	Back Rio Grande Hydro Project Review
St. Vincent & the Grenadines	Inspection, Topographical Survey & Stream Flow Gauging for the St. Vincent Electricity Services Limited
St. Vincent & the Grenadines	Feasibility Study, Tender Design & Tender Documents for the Hydropower Stations of St. Vincent Electricity Services Ltd.
Suriname	Wind Speed Measurement in Suriname at Nickerie and Galibi

Snapshots of a few of the projects are presented below:

Snapshots of a few of the projects are presented below:

1. **Topographical Survey, Feasibility Study, Steam Flow Gauging and Tender Design & Documents – St. Vincent & the Grenadines.** The support provided to VINLEC in the areas referred to at caption totaled **US $507,859** or 30% of the CRETAF. The outputs included bankable feasibility studies, including environmental and social impact assessment for the rehabilitation and upgrade of the South Rivers 1 & 2 and Richmond hydropower projects, as well as, tender designs, drawings, cost estimates and schedules for the proposed works.

The studies concluded that the design discharge could be increased through the proposed rehabilitation and upgrade. Proposed civil works include the replacement of the existing headrace and penstock, and the construction of an inflatable weir. Total annual energy generation could increase by 13.32 Gwh.

2. **Feasibility Study of Newtown and Stream Flow Gauging at Selected Rivers – Dominica.** US $144,250 or 8.5% of the CRETAF was provided to Dominica Water & Sewage Company (DOWASCO) for the feasibility study of the Newtown Hydropower Plant (NHP) and for the installation of stream river gauging equipment and related civil works at four potential hydropower sites. The output includes a bankable package with tender documents and tender design. Once developed, the NHP will supply power to the national grid operated by DOMLEC.

Consultants inspect the existing sand trap of the South Rivers Hydropower Plant

DOWASCO workers repair a leak on the bulk water pipeline which will be used as the hydropower penstock for the NHP

3. Grid Stability and Soil Test for Hope Beach Wind Project – Guyana. Funding of US $132,692 or 7.8% of CRETAF was made available to the developer of the proposed 13.5 MW Wind Farm at Hope Beach Guyana. These funds covered an assessment of the operational conditions for interconnection of the wind energy to the national grid and projected performance under various scenarios. In addition, a geotechnical investigation of the suitability of the soil conditions to support the towers and other infrastructure was conducted.

Representative of the Project Developer Mel Pollard & Patsy Ross (UNDP) visit the site of the proposed wind farm

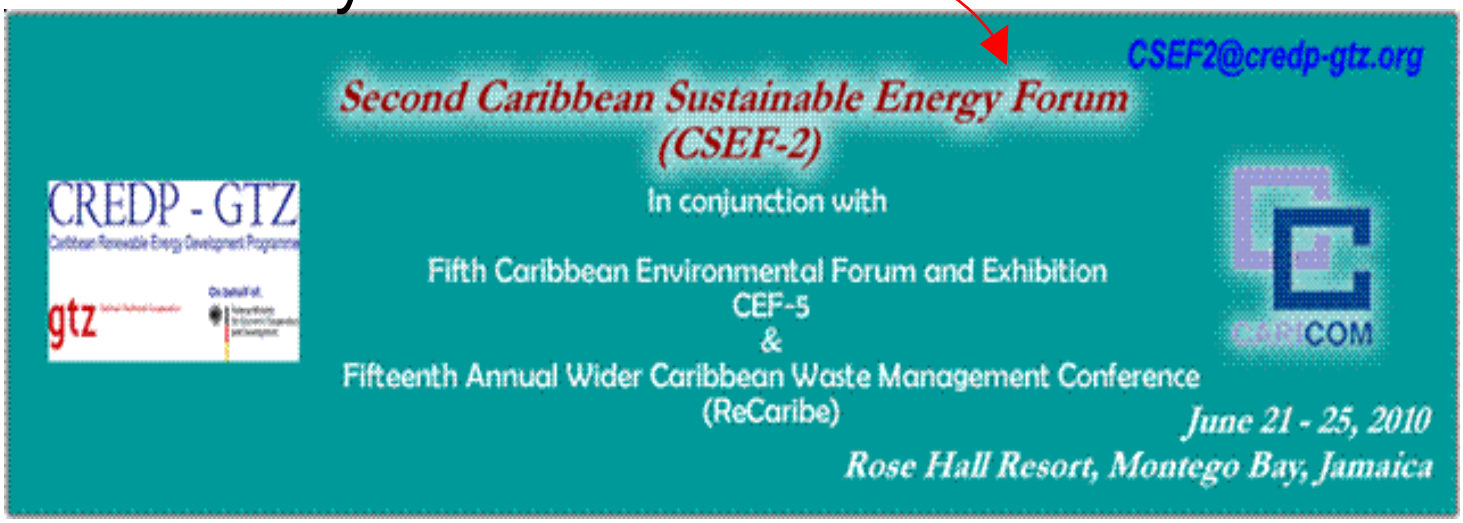
Chiung Waterfall

4. Feasibility Study Biomass Fueled Co-generation CHP System – Jamaica. The US $10,578.74 disbursed to the University of the West Indies Mona Campus funded a study that examined the feasibility of installing a 1.5 MW Biomass Fuelled Cogeneration System to provide base load generation for some of the University buildings and facilities. The objective was to improve efficiency at the University and to reduce the energy bill. Biomass from two sources was considered with LPG as the secondary source. The study concluded that the University could realize electricity reduction of 32% and significant annual savings should the project be implemented.

5. **Pre-feasibility Study Chiung River, Kato – Guyana.** A pre-feasibility study for the development of a hydropower project on the Chiung River in the interior of Guyana was conducted at a cost of US $199,918 or 11.7% of CRETAF. The primary purpose of energy use in this hinterland community and other contiguous communities is for irrigation of agricultural lands to boost economic activities and to reduce poverty. The study examined the alternatives for location of the powerhouse, the proposed option and the potential for agro-processing

Energy

Mark your calendar



Ministers with Responsibility for Energy – Part 2

Excerpts from Address by the Honourable Prime Minister Baldwin Spencer, Minister responsible for Energy at the Opening Ceremony for Consultation on a National Energy Policy, 18th March 2010.

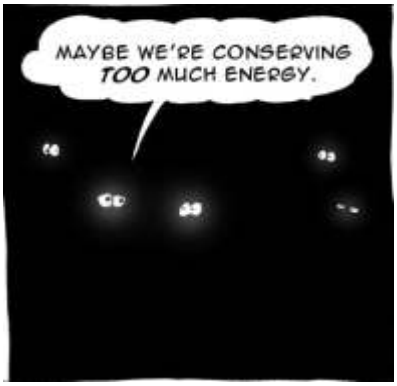
"As the price of oil continues to rise, small and vulnerable economies like ours are hit hard. We know all too well that higher oil prices inevitably lead to higher electricity bills and a subsequent increase in the overall cost of living. It is imperative that we think strategically about our future energy needs.

I established an 18-member National Energy Task Force which was mandated to produce an Energy Policy. In this regard, this Policy is expected to provide a road map for turning Antigua and Barbuda into a green economy, providing green jobs in an emerging and growing alternative energy sector.

Government's commitment to harnessing the power of the wind and the sun and using other alternative energy sources has been recognized by several regional and international partners who have graciously offered to assist us in this undertaking. The Organisation of American States (OAS) and CARICOM Secretariat will be working with the Task Force – and by extension the government – in crafting the Energy Policy and in the subsequent preparation and implementation of a Sustainable Energy Plan.

Would it not be spectacular to see the energy needs of homes being fed by the burning sun and the cooling winds? Imagine the possibility of public buses running not on diesel but on the power of the sun? These are not random and cryptic thoughts, but realities in countries across the world. We must dare to be bold in our thoughts and in our actions.

The government must lead by example. However, we cannot fight the battle alone; individual households, communities and the private sector must join this campaign to become more energy efficient and more prudent in the use of this vital resource."



Energy conservation does not mean that we have to live in the dark.

PETROLEUM AND GAS BRIEFS

Trinidad supplying gas to Eastern Caribbean via pipeline

The Eastern Caribbean Gas-pipeline Project is aimed at supplying natural gas to the Eastern Caribbean with Barbados, Martinique and Guadeloupe expected to be the leading off takers. The Project recently advanced one step further when the Government of Barbados announced in February 2010, the plan to begin negotiations by the end of February. Among the items reported for discussion are a harmonised Inter-Governmental Agreement (IGA), a Host Government Agreement and clearly defined formula for a tariff. The first stage of the pipeline from Trinidad to Tobago is currently under construction.

Jamaica stage second licensing bid round for Petroleum Exploration

Based on the acquisition of new seismic data, Jamaica recently launched, in London, a second licensing bid round for petroleum prospecting (scheduled to run until March 2011). Based on data available, it is considered that there are at least 10 prospective reserves that contain a huge volume of oil and gas. Jamaica has been exploring for oil since 1956 but the efforts have not been constant as there was a pause for a while before active exploration restarted in 2004.

Guyana's petroleum and gas exploration heats up

Guyana's petroleum and gas exploration continues with a third company, the London-based oil exploration company, Tullow Oil, expected to join Canadian oil exploration companies Groundstar Resources and CGX Energy, which plan to commence drilling on their respective onshore and offshore blocks in 2010.

Welectricity. Energy Efficiency, meets Social Networking™ contributed by Herbert (Haz) Samuel - Consultant, Green Island Inc.

Mr. Herbert Samuel

Welectricity, an innovative web application to promote household energy conservation via social networking, has just been launched by startup ***Welectricity*** Inc., founded in 2009 by Caribbean energy consultant Herbert (Haz) Samuel. ***Welectricity*** is designed to allow the application, within a customized social networking environment, of the relevant behavioural factors that drive positive household energy conservation outcomes. ***Welectricity*** is specifically designed to address a phenomenon called the *Jevons Paradox which is based on the Rebound Effect (See Box-1)*, as it incorporates the energy conservation influence factors (ECIFs) that are thought to offset the rebound effect, thereby driving actual conservation.

Welectricity is a simple, low-carbon solution that does not require people to get any more stuff. No smart meter or third-party in-house monitoring devices need to be manufactured, packaged, shipped and installed. All that is needed is an internet-connected computer, which most people already have at home.

As on any other social network, a user will sign up, set up a profile, invite and interact with friends. The heart of the app is the dashboard, where a set of panels are displayed. Users can display and compare their consumption with that of similar users (having a similar household profile, in the same area), set monthly reduction goals and make plans to achieve same, etc. This functionality provides what behavioural economists refer to as social proof; one of the behavioural factors that influence positive energy efficiency outcomes.

Welectricity will be free to users and the app will be available for utilities under license, whereby they will be able to roll out a customized version of ***Welectricity*** to their customers.

To learn more about ***Welectricity*** and how to sign up visit www.welectricity.com.

BOX-1: Jevons Paradox & The Rebound Effect: A growing body of research suggests that a significant proportion of the electricity consumed in households is due to ***behaviour***. Also related to consumer behaviour is a problem long-observed in energy efficiency circles, which is that despite the improved energy efficiency of the many devices that we use – from automobiles to household appliances – we tend to use commensurately less energy. In some cases, the opposite has occurred; a result that was first observed in the mid 19th century by William Stanley Jevons, a British economist, and came to be known as the Jevons Paradox.

The Jevons Paradox is explained by the rebound effect; an economic theory which says that if the cost of a resource is reduced due to increased efficiency, people will consume more of the resource (or the services dependent on the resource) than previously, thereby offsetting (partially or entirely) the effect of the efficiency improvement. For example: a neighbour who never used his outdoor lights at night – until he got energy-efficient compact fluorescent lamps. Since then, he has been leaving the lights on outside, because he knows he now has "energy-saving bulbs" inside. Well, guess what the overall effect on his electricity bill is likely to be? Studies by behavioural economists and psychologists of the rebound effect confirm that it is a significant, but largely ignored phenomenon in public energy policy.

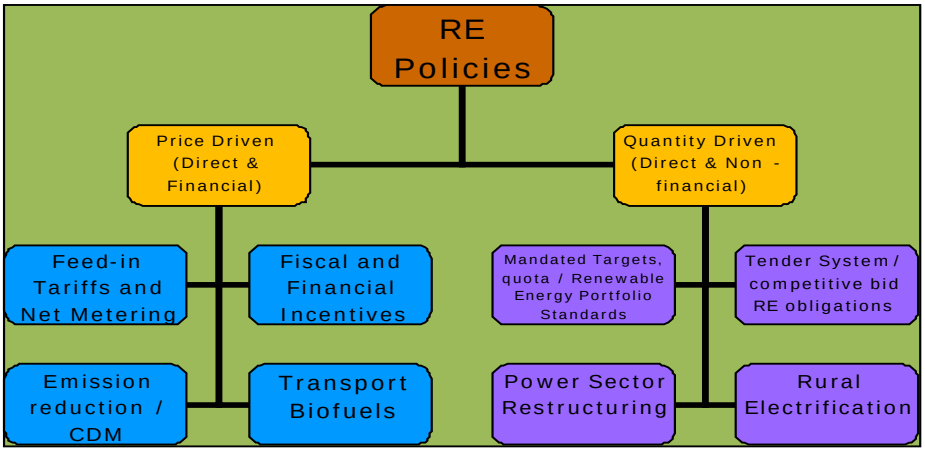
Don't be caught by the Energy Police leaving your lights on when out of the room!!!!

Energy Policy Instruments for Promoting Renewable Energy Development: Part 1 – Feed-in Tariffs

contributed by Maxine Nestor, Regional Energy Policy Advisor

Ms. Maxine Nestor
Regional Energy Policy Advisor

Energy policies that foster the use of renewable energy sources (RES) and energy efficiency technologies and development, can significantly enhance energy security and sustainability through diversification of energy sources. Such policies also contribute to the curtailment of the level of CO_2 in the atmosphere and reduction of environmental externalities. Effective RE focused policies reduce dependency on imported petroleum and place greater reliance on indigenous sources therefore stabilizing energy and electricity prices and contributing to economic development. Many emerging and proven policy mechanisms are utilized in parallel by developed and developing countries globally.
See chart below for categorization of some RE policies.



Not all of the established policy instruments are relevant for every CARICOM Member States. Rather, each country must during the planning stage assess its strengths, weaknesses and determine the opportunities for renewable energy technologies that could be exploited so that its national energy policy could be tailored with strategies to suit the country's needs. CARICOM countries are at varying stages in the national energy policy formulation continuum with St. Vincent & the Grenadines being one of the leaders having an approved policy since February 2009. This and subsequent issues of Energy will analyze the relevance of the various policy instruments to the Region and present these as learning tools, lessons or best practices that could be adopted by Member States.

Feed-In Tariffs (FIT) will be discussed in the first of this series. FIT is the price paid by the utility for renewable electricity generation fed into the national grid either at the transmission or distribution system. FIT cover electricity generated from any RES including wind energy, landfill gas, hydroelectric, geothermal, solar photovoltaic and biomass. This is a price-driven, market-push policy tool used to increase the contribution of RE in the generation mix. Over 36 countries around the world have now adopted FIT, including Spain and Germany and a number of states in the US, and newly industrialized and developing nations such as Turkey, Thailand, Sri Lanka, Nicaragua, Indonesia, Ecuador, China, Brazil, Argentina, South Africa and Kenya.

FIT policies could be enacted by way of a specific law or by amendment to the existing sector laws, such as an Electricity Supply Act to add relevant provisions, since many of the generic issues related to bulk supply of electricity may already be covered in existing laws. In such cases, legislative amendment will avoid duplication and conflicts.

In jurisdictions where FIT apply, utilities are obligated to interconnect with and enter into long-term power purchase agreements with RE developers for periods up to 20 years. In some cases, a cap is set on the total percentage of FIT generation brought into the grid and the size of any one RE project depending on the technology source. Such cap would be extremely relevant in CARICOM where energy demand is still relatively small in many of the Member States, except Jamaica and Trinidad. The setting of a cap would be guided by the utility's generation, transmission and distribution expansion plan. Utilities may be required to upgrade their existing facilities to ensure the reliable integration of RE generation from independent power producers.

Even though FIT take account of the utility's marginal avoided cost, the concept of the RE developer achieving a reasonable return on the investment based on cost of capital is also an important consideration. To induce investment decisions in RE and provide a stable price benchmark for developers to raise financing, countries have applied different methods for the determination and adjustment of tariffs. FIT can allow for the payment of **premium price** on the wholesale price or **tariff degression** with tariff level reduction in later years as technology improves and cost is reduced. Other designs applied by countries for FIT include a **fixed tariff**, independent of electricity market price, **stepped tariff** according to technology type and location of RE source, and **flat tariff** regardless of investment and plant costs.

Many CARICOM countries are transitioning to a position where generation capacity is added to the grid through arrangements with independent power producers (IPP) with greater emphasis on generation from RE sources including wind, hydro and recently increased attention on geothermal development. Not all tariff setting formula applied in IPP arrangements qualify as FIT. The underlying principle behind FIT is that generation is often paid for at a level

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Energy Policy Instruments

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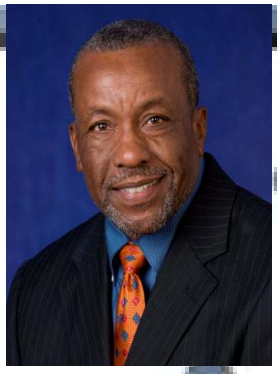
higher than the utility's marginal avoided cost. Such expenditure by the utility is a pass through to consumers thereby paradoxically resulting in higher electricity rates during the pay-back period of the investment. FIT are however counterbalanced by fiscal instruments: another policy that will be examined in a future issue of Energy .

There is nonetheless potential within the Region for feed-in of excess electricity produced from co-generation. However unlike the culture in countries such as Germany where electricity consumers voluntarily pay a higher price for electricity generated from RES or other clean energy in anticipation of the long term benefits, the embedded culture in the Region is that electricity charges to the end user should be subsidized by the State. If any CARICOM Member State permit FIT in its national energy policy, it is likely that the principles that guide rate setting will guard against a purchase price higher than the utility's marginal cost for generating electrical energy.

CIPORE: Caribbean Information Platform on Renewable Energy (CIPORE) is the One Stop Point for Renewable Energy Information in the Caribbean. Visit CIPORE on line at www.cipore.org

Energy Featured Personality of the Quarter

– Mr. James Husbands



James Husbands

When one thinks of how solar water heaters have transformed the water heating landscape in Barbados, with increased usage in other CARICOM Member States, the name **James Husbands** comes to mind immediately. Mr. Husbands, a pioneer in the industry, is the technology visionary behind the company **Solar Dynamics** that was established in Barbados in 1974 with the objective of advancing the development and use of solar technology for heating water in both domestic and commercial settings.

Although there have been other players in the Barbados solar water heating market, Mr. Husbands' entrepreneurial drive and technological vision, supported by the enabling policies of the Barbados Government have contributed to the significant benefits which solar water heating has brought to the Barbados economy. Estimated annual savings of over US $6.5 million in foreign exchange has been reported in Barbados, through the use of solar water heaters. Through these noteworthy ingenuities, Barbados is now ranked sixth worldwide in the number of water heaters per capita according to the 2009 International Energy Agency ranking.

But who is Mr. James Husbands and what experience did he have in solar technology prior to 1974? This humble and down-to-earth man had no formal training in solar technology but advanced his dream to reality through research, experimentation and exploration. Overcoming a myriad of challenges over the years, James Husbands has piloted a fledgling idea into one of the Region's best known success stories. So laudable are his achievements that he was bestowed the Gold Crown of Merit by the Barbados Government in 1994. Mr. Husbands is also the recipient of the Special Innovation Award by the Barbados Investment Development Corporation in 2006, the World Renewable Energy Congress Pioneer Award in Glasgow, Scotland in 2008 and the Anthony B Sabga Caribbean Award for Excellence in Science and Technology in 2008.

James Husbands has no qualms about transferring his knowledge and experience gained to other entrepreneurs, and for the advancement of science and technology in the promotion of renewable energy in the Region. For almost twenty (20) years he has served on the executive of the Caribbean Solar Energy Society.

Solar Dynamics has gradually progressed from a Barbados based establishment to a regional one with manufacturing operations in Barbados and Saint Lucia, a distribution center in Jamaica and agents in The Bahamas, Belize, Dominica, Grenada, Guyana, St. Maarteen, St. Vincent & the Grenadines, St. Kitts & Nevis and Tortola.

Well done James Husbands!!!

ENERGY NEWS

Three CARICOM Projects win Energy Innovation Award

In 2009, GVEP International with support from CARICOM and other partners launched an IDEAS contest within Latin America and the Caribbean for project ideas which demonstrate innovative solutions to combating the challenges associated with energy use. The contest provided for twenty-five (25) winners within Latin America and the Caribbean to receive grant funding of up to US $200,000 over a period of two years to develop their innovative concept. ***Three (3) projects within CARICOM were among the 25 winners selected from over 1000 entries.***

In picture from left are Sarah Adams, CEO - GVEP; Bob Hathaway; Pablo Rosenthal, Senior Advisor - GTZ; and Ken Aldonza

One of the two (2) clean energy projects from Saint Lucia involve the construction of a ***solar boathouse*** in Marigot Bay that allows boats to be charged with solar power transferred from a battery bank thereby eliminating the need for batteries on the boat. This solar ferry will replace the inefficient and polluting two-stroke engines commonly used by boats in developing countries. Bob Hathaway from Marigot Marina Management Ltd., the face behind this idea, will receive a US $83,000 grant. The second project involves the construction of a new power plant that will use ***banana waste to produce methane***. The plant will be powered from methane and will produce ethanol which will be sold in the transport industry. This banana ethanol project which was conceptualized by Ken Aldonza, Director of Applied Renewables Caribbean, received a US $198,000 grant. ***Welectricity*** conceptualised by St. Vincent & the Grenadines Consultant, Herbert (Haz) Samuel is another winner of a grant valued up to a maximum of US $119,280. *See more on this project concept on page 7 of this* Energy *issue.*

The 2009 IDEAS Energy Innovation Contest was sponsored by the Inter-American Development Bank (IDB), the Korean Government, the German Government Technical Cooperation (GTZ) and Global Village Energy Partnership International (GVEP-I), a UK-based non-profit organisation.

Another CARICOM country becomes signatory to IRENA

St. Vincent & the Grenadines is the latest CARICOM country to sign on to IRENA, joining Grenada and Antigua & Barbuda. The annual membership fee for Small States is relatively low. Member States of CARICOM are encouraged to sign up with the International Renewable Energy Agency (IRENA) to allow for a greater voice of Small Island Developing States like those of CARICOM in shaping the global renewable energy agenda. **IRENA aims at becoming the main driving force in promoting a rapid transition towards the widespread and sustainable use of renewable energy on a global scale.** It will act as a global voice on RE and provide practical advice and support for countries: helping them improve their regulatory frameworks and build capacity; access relevant information including reliable data on RE; and share experiences on best practices, effective financial mechanisms and state-of-the-art technological expertise. Access Homepage of IRENA at: **http://www.irena.org**

CARICOM Energy Sector Icon passed away

In February 2010 Trevor Boopsingh passed away. Energy joins the rest of the Caribbean in recognizing the sterling contributions of Dr. Trevor Boopsingh to the Regional energy sector, and specifically his pioneering efforts in the Trinidad and Tobago energy industry. Among other things, Dr. Boopsingh an energy expert and academic was also the brainchild of the Eastern Caribbean Gas Pipeline project.

Caribbean Community Secretariat and Latin America Energy Organization (OLADE) signed Memorandum of Understanding for Cooperation in February 2010

OLADE is the oldest Hemispheric Energy Organization and provides capacity support and training for members. Barbados, Grenada, Guyana, Haiti, Jamaica, Suriname, and Trinidad and Tobago are members of OLADE. The Cooperation MoU will allow for greater sharing and collaboration on energy related matters.

Jamaican CLIFFORD MAHLUNG appointed Chairman - Executive Board of the Clean Development Mechanism (CDM) for 2010

Clifford Malhung

Clifford Mahlung, who served as Vice-Chair in 2009, took over as Chairman from Lex de Jonge of the Netherlands in 2010. Mr. Mahlung who is an applied meteorologist in the National Meteorological Service, Jamaica, was an alternate member of the Board in 2005-2006 and joined the Board as a member in 2008.

The CDM Executive Board consists of 20 members: 10 full time and 10 alternates. The role of the Board is to regulate CDM by developing the guidelines and procedure for registration and approving the registration of projects. CDM helps developed countries to achieve their emission targets through Certified Emission Reductions (CER). CER is the world second largest carbon market now valued at US $6.3B.

The CARICOM Secretariat and Energy congratulate Mr. Mahlung on this achievement and extend best wishes during his tenure as chairman.

University of the West Indies Establishes Inter-Campus Renewable Energy Group

The University of the West Indies recently formed a Renewable Energy Group. The group's primary objectives are to increase the use of renewable energy on the campuses and build awareness. The Group Members are: Cave Hill: Professor Leo Moseley (coordinator), Professor Sunday Iyare, Dr. Thomas Rogers, Dr. Anthony Fisher. Mona: Professor Ishenkumba Kahwa, Dr. Claude McNamarah, Dr. Paul Aiken. St. Augustine: Prof. Chandrabhan Sharma, Dr. Indrawatee Haraksingh, Dr. Rajendra Ramlogan.

Manager CARICOM Energy Programme, Joseph Williams meets with UWI Renewable Energy Group Members.

UPDATES - REGIONAL RE DEVELOPMENTS

Jamaica: It is heartening news that the planned expansion of the Wigton Wind Farm from 20 MW to 38 MW has commenced. Also the Jamaica Public Service Company has announced plans for the installation of Wind farm at Munroe, St Elizabeth. **Barbados:** Barbados Light & Power has taken steps to facilitate the integration of up to 1.8 MW solar PV into the grid. **Nevis:** Ground work for the installation of 1.1 MW wind farm commenced recently. The geothermal power production set for this year has been re-scheduled to 2011. **Guyana:** The Government has recently announced the award of a US $15 M contract for the upgrading and construction of new roadway and pontoon crossings as the first phase for the construction of the 154 MW hydroelectric power plant at Amalia Falls to supply the national grid.

CREDP / GTZ Component completes second year of Phase 2

Support to CARICOM Member States in the area of renewable energy and energy efficiency continues until **March 2012** under Phase 2 of the CREDP component funded by the Government of Germany. Some of the activities include support for formulation of National Energy Policies and Action Plans and site assessment and advancement of renewable energy project development (hydro, wind, PV). In the area of energy efficiency, activities include a small scale project to reduce energy consumption at the domestic level and energy audits for the hotel sector in countries of the Organization of Eastern Caribbean States.

STATUS OF REGIONAL ENERGY POLICY

The Energy Pricing Study is currently in progress and is expected to be completed in June 2010. This study is a necessary activity mandated by Conference of Heads for the finalization of the Regional Energy Policy.

UPCOMING EVENTS

- **ECLAC Workshop on Energy Efficiency** - Trinidad &Tobago, May 13 2010 – The focus will be on using improved mechanisms for energy efficiency to promote energy security in the Caribbean.

- **Second Caribbean Sustainable Energy Forum (CSEF-2)** - "Coping with Copenhagen: Fast Tracking Sustainable Energy in the Caribbean Region, Montego Bay, Jamaica, June 21 – 25 2010 - The main objective is to foster synergies in terms of cross or multi-sectoral approaches to Sustainable Development issues, promote networking and provide training.

- **CREDP Lessons Learned Workshop**, Montego Bay, Jamaica, June 21 – 25 2010 - Key stakeholders will assess the results of CREDP/UNDP Project.

- **21st World Energy Congress**, Montreal, Canada, September 12-16 2010 - Forum to develop a set of concrete and focused proposals to address the challenges facing the energy sector.

- **Caribbean Renewable Energy Forum 2010**, Nassau, Bahamas, October 14-15 2010 – This forum will address the financial, regulatory, policy and technological obstacles to RE/EE implementation across the region.

Some Feedback from Our Readers on the Inaugural CC Energy

"Once I had logged on I definitely wanted to continue reading. The newsletter is reader friendly, plenty of contrasting colours, interesting and relevant to our reality... did not realise that energy was so interesting and alive..... If one of the aims of the newsletter was to bring energy to life it certainly has! --- J. B. Lewis

"Great initiative… As a graduate Sustainable Destination Management student, I find the information in your Newsletter useful." --- R. Collymore

"Congratulations on the Inaugural issue of CC-Energy! Well done." – L. Applewhaite

"Congratulations to all of our friends at CARICOM Energy for this excellent publication!" – M. Lambrides

"Thank you …this is very good initiative by your organization. This should do well in keeping us professionals up-to-date with all that is taking place throughout CARICOM. I will definitely enjoy reading this Newsletter and look forward to the next. " – W. Grant

"Many thanks and congratulations on your newsletter. I am glad to see that you have information on IRENA which all CARICOM countries need to join". ---A. A. Chen

"This is an excellent product. Congratulations all of you for the effort you have put into producing this excellent newsletter." K. Nichols

"Congrats. This is very informative and very well put together" E. Greene

"This newsletter is a very necessary and helpful instrument to communicate to all stakeholders what is happening in the CARICOM region in energy….I wish the Newsletter will become a vital and dynamic information tool." __T. Scheutzlich

"Congrats to the Energy Programme on the production of a visually appealing and informative inaugural Issue. I look forward to receiving the Newsletter on an ongoing basis." – A. Watson